82. By way of contrast, suppose GTE were to attempt to purchase wholesale 1+ service from, say, a combination of Qwest and IXC (as each of the companies has incomplete coverage, and GTE is marketing its service at the nationwide level). Most local companies can only associate one interconnecting long-distance carrier with each single CIC code. For example, NYNEX cannot currently program its switches to route calls presubscribed to 105483 to Qwest if they come from offices in Albany, NY, or to IXC if they come from offices in New Rochelle, NY. While local companies are working to permit CIC assignment by state, most cannot currently handle this task. Further, the stratagem of using two CIC codes – say, 10XXX1 for customers to be handled by Qwest and 10XXX2 for customers to be handled by IXC – is precluded. Not only would the use of multiple CIC codes increase the probability of errors, OSS rejection, and accidental slams, but three- and four-digit CIC codes have been exhausted, and the transition to five-digit CIC codes has not yet been completed. Even aside from the provisioning issue, GTE would then have additional work cut out to ensure that the vendors' products were compatible. In this example, both Qwest and IXC would have to be able to offer six-second billing and the same level of call detail, and GTE's billing systems would then have to manage data tapes coming from two vendors, with quite possibly different formats. Finally, GTE would have to conduct two quality monitoring programs, maintain two sets of vendor management teams, and duplicate other types of transaction costs.

83. In fact, the example above is a simplification of the actual underlying complexity of a multi-vendor process. Neither Qwest nor IXC has or is projected to have anything approaching nationwide coverage, so in reality at least three or four vendors would have to be involved, and there is a high probability that many of them might rely on leased transport from AT&T, MCI-WorldCom or Sprint. Additionally, I examined only one of the simplest products (1+) and the case of a single-location customer. The transaction costs would be higher still if the customer demanded both 1+ and 800 service at multiple locations (for example, a rental car company with thousands of rental counters and a single, nationwide 800 number that routed the call to the nearest counter).

84. Finally, there is a quality penalty to be incurred by using a wholesale provider that does not own the underlying facilities. For example, if a fringe wholesale carrier were used as a wholesale 1+ provider, it would have to lease DS-1s and DS-3s to all the end-offices which serve GTE customers but are off its network. With leased facilities, however, the wholesale provider does not have operational control. It will not know when the underlying physical facility is experiencing hardware problems (unless it learns the hard way that its calls are getting blocked), and it may not even know the physical routing of the leased facility, or how it's protected. For example, two Phoenix to Dallas redundant circuits may be purchased from a transport provider with the assurance that one is physically routed via El Paso, while the other is via Denver-Kansas City, and that both operate with 1:8 protection (one piece of reserve transmission equipment for every 8 active ones). However, if the transport provider were to encounter a problem a few months later, say on the Phoenix-Denver cable, both circuits may end up being on the same physical cable, and with only 1:16 protection. The wholesale provider is quite likely not to notice the switch unless something goes wrong, and the precious redundancy is found lacking just when it's most needed. This is exactly the kind of problem which grounded the Illuminet SS7 system (a failure I described in my original long-distance affidavit) after a fiber cut which, at least on paper, should have been survivable.

85. As always, the proof lies in the pudding. Despite owning certain pre-existing fiber routes, GTE is using WorldCom as a single supplier of wholesale 1+, and generally not using its pre-existing fiber where available (as the benefit is outweighed by the transaction costs). Similarly, Excel, the fifth-largest retailer of long-distance services, switched its wholesale contract from Frontier to WorldCom, because of Frontier's problems with managing its underlying facilities – including those which it had leased from other regional carriers. And as I showed above, almost all of the RBOCs selected WorldCom or one of the Big Three as their suppliers for wholesale long-distance voice services, and not one of the fringe carriers. As can be seen from Qwest's experience with the buildout of its planned network, the main barrier to entry into the provision of wholesale long-distance network services is the inherent difficulty of constructing, engineering, and provisioning a new national network. Qwest appears to be well capitalized, and has attracted over 100,000 customers since it entered into its marketing alliance with US WEST.[55] Yet Qwest has had to rely on resale of other network providers' wholesale service to service the customers it has attracted, as it is has been unable to build out its network as quickly as it had hoped.

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[55] See *Customer Demand Reaches 100,000 Mark for Buyer's Advantage Program - Offering U S WEST Local and Qwest Long-Distance Service*, Qwest Press Release May 27, 1997. "U S WEST Communications and Qwest today announced that 100,000 customers have signed up for the U S WEST Buyer's Advantage program. This new marketing alliance -- launched just under three weeks ago on May 7 -- offers customers the simplicity and convenience of going to one source to meet all their local and long-distance telecommunications needs."

F. Fringe facilities-based firms are not providing economically relevant substitute services for most customers

86. The merging parties claim that the changing structure of the industry is bringing downward price pressure to the market. Specifically, they claim that new facilities-based capacity is responsible for declining prices. However, the observed pricing patterns – that is, what most consumers pay for service – belie this alleged change in industry supply. Basic rates, which are paid by a large proportion of customers, especially those most vulnerable to price discrimination, are increasing at a time when access charges are being reduced. Thus, this new capacity is *not* having the effect the merging parties claim, in large part because this new "supply" is not of the scale and scope needed to deliver real competition. If these fringe facilities-based firms were truly providing substitute interexchange services, then we should expect a massive defection of retail end-users to these firms and their services. In some markets Qwest is offering long-distance service at well under half the price of AT&T's no fee flat rate plan.[56] If these services were truly substitutes and switching costs were low we should have seen a massive defection of customers from AT&T to Qwest in the markets where this product is available. Instead, there appears to have been very little, if any, substitution on the part of consumers. And, if there has been any downward pressure on prices, it has come from the resale segment, which nevertheless remains dependent on facilities-based supply.

87. MCI and WorldCom wrongly imply that the growth of the smaller (*i.e.* all except the Big Three or WorldCom) interexchange companies' market share to 16 percent in 1996 (according to Professor Hall's data,[57] which is demonstrably flawed) proves that the market for long-distance service is competitive and that there are no barriers to entry. This argument is both conceptually and factually flawed. There is not a single market for long-distance service; there are a number of economically relevant customer segments, including residential users, low-volume businesses, and high-volume businesses. These "smaller" carriers identified by Professor Hall, which are predominantly resellers, do not provide adequate substitute wholesale network services to those available from the Big Three or WorldCom. Therefore, their market shares in retail markets demonstrate nothing about their competitiveness in the supply of wholesale network services.

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[56] Qwest's voice-over-IP service offers interstate calling at 7½ ¢/min. peak, 5 ¢/min. off-peak, as compared to AT&T's flat rate plan of 15 ¢/min.

[57] *Second Joint Reply of WorldCom, Inc. and MCI Communications Corporation*, CC Docket No. 97-211, March 20, 1998, p. 22. See also, *Declaration of Robert E. Hall*, CC Docket No. 97-211, January 26, 1998, p. 21.

88. Finally, and most importantly, given the high price-cost margins enjoyed by the Big Three carriers today, the fact that they (along with WorldCom) still maintain an 84 percent share of revenues (according to Professor Hall's analysis,[58] which is flawed by the commingling of wholesale and retail revenues) is strong evidence that barriers to entry are present, preventing new entrants from flooding the market and driving price down to cost. In an industry without barriers to entry, if incumbents had such large price-cost margins, they would lose market share much more rapidly than is occurring in the U.S. long-distance industry today. As I discussed in my first long-distance affidavit, these barriers to entry come from the economies of scope, scale and density in the production of network services and in retail markets from the tremendous sunk investments in brand name promotion and marketing made by the Big Three carriers. In sum, while resellers have contributed to increased competition in the retailing of long-distance, we have not yet approached a "workably competitive" marketplace in either the wholesale or retail markets. Most importantly, much of the progress of resellers is attributable to the growth of WorldCom as a fourth national network. Thus, the elimination of WorldCom as an independent wholesaler will surely deter and retard the development of resellers as a competitive force in the retail long distance market, and there would be one less provider in a less competitive wholesale market.

## V. WorldCom's Incentives Will Change After the Merger

### A. WorldCom currently functions as a maverick in long-distance markets

89. My first long-distance affidavit presented substantial evidence that WorldCom plays a maverick role in long-distance markets, disrupting the cartel-like behavior of the Big Three carriers. For example, WorldCom is the most aggressive competitor and has the highest market share in the wholesale market, leading to increased price competition in the retail market via resellers. Drs. Carlton and Sider and MCI-WorldCom have not refuted this evidence. As the largest wholesale supplier with the best terms and prices for its services, WorldCom permits resellers such as GTE and others to aggressively compete with the Big Three long-distance carriers in retail markets.

90. Drs. Carlton and Sider claim that the transaction will not increase WorldCom's ability to earn monopoly rents because if WorldCom is the only major participant in wholesale markets as GTE claims, it should already be earning monopoly rents on wholesale transactions.[59] This argument misses the point because it fails to take into account the actual competitive dynamic which exists in today's wholesale marketplace and WorldCom's previously described role as the maverick. Because WorldCom has the smallest network and customer base of the top four interexchange carriers and the least recognized brand name in the mass market, it is ranked fourth in the retail (*i.e.* residential and low-volume business) "pecking order." Thus, WorldCom has the strongest incentive to supply wholesale long-distance services at low prices.

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[58] *Declaration of Robert E. Hall*, CC Docket No. 97-211, January 26, 1998, p. 21.

[59] *Second Declaration of Dennis W. Carlton and Hal S. Sider*, CC Docket No. 97-211, March 19, 1998, p. 35.

91. WorldCom's thrust into the wholesale market has had the beneficial effect of dragging the Big Three into wholesaling as well. In the absence of a strong independent wholesaler, the Big Three have an incentive to collectively discourage wholesale, as they would much rather gain higher profits from branded retail sales. With a strong independent wholesaler, however, the Big Three's incentive to discourage resale is lower, as WorldCom can capture market share by aggressively pursuing resellers, resulting in a loss of both wholesale and retail margins for the Big Three.

92. As might be expected, Sprint, the next larger national facilities-based carrier (ranked by retail market share), and the carrier with the weakest brand name of the Big Three, is the second most active wholesale supplier. Thus, in pre-merger wholesale markets, WorldCom prices to marginally undercut Sprint's offerings and competes with Sprint to offer better service to resellers (free PIC processing, unbundled access and other features I described in my original affidavit). WorldCom's competition, in turn, keeps Sprint's wholesale prices below what they otherwise would be. Therefore, it is unlikely that WorldCom is earning monopoly profits from providing wholesale service to GTE.

93. After the merger, however, as I explain below in the discussion of my diversion analysis, WorldCom's interests align with MCI, and WorldCom has an incentive to restrict wholesale supply because it now has a much higher retail market share. Sprint, which becomes the lowest carrier in the retail pecking order, will then only be constrained by AT&T and MCI-WorldCom, both of which will have a higher reservation price when bidding for wholesale contracts. While AT&T incentives to provide wholesale will be relatively unaffected, Sprint's incentives will change significantly, as of course, will MCI's. For example, Sprint may no longer work to make a wholesale virtual private network platform available to resellers (work which is currently in its retail phase), as there is little likelihood that WorldCom will develop a competitive wholesale VPN platform once it merges with MCI. The lowest price offered to resellers will therefore be likely to increase substantially, while the breadth of products is likely to decrease markedly. Resellers' costs will increase, reflecting the loss in competition from WorldCom. Consumers whether served directly or indirectly (through resellers) by WorldCom, or served by WorldCom's competitors, will ultimately end up paying more for retail services.

### B. Acquiring a large retail base will change WorldCom's incentives

94. The available evidence indicates that, following the merger, the combined company will have an incentive to restrict wholesale sales channels and emphasize selling higher margin retail minutes of use. The analysis in this section is premised on the reality that facilities-based entrants will not be effective suppliers in wholesale markets because, as was shown above in the coverage analysis section, they lack ubiquitous coverage both now and for the foreseeable future.

95. In order to analyze if and how WorldCom's incentives will change after the merger with MCI, it is important to understand the distinct composition of MCI's and WorldCom's pre-merger customer bases. Currently, WorldCom pursues a strategy of selling bulk services to high-volume business customers and to resellers on a wholesale basis. Under this strategy, WorldCom hasn't had to invest heavily in the sunk costs of developing its brand name in order to sell to low-volume business and retail customers. MCI has had a different strategy, focusing on direct retail sales (rather than bulk supply to resellers) and spending heavily to promote its brand name. See Exhibit 4 for a breakdown of AT&T's, MCI's, Sprint's and WorldCom's total long-distance revenues by market. Companies with brand name recognition are able to differentiate their products and achieve higher margins vis-à-vis generic wholesalers.

96. Pre-merger, when WorldCom provides wholesale minutes of use to resellers, it is competing with the retail offerings of AT&T, MCI and Sprint to low-volume businesses and residential customers, because the resellers and the Big Three all serve these same market segments. Based on WorldCom's recent financial results and market valuation, this appears to be a profitable business. Following the merger, WorldCom's wholesale sales would, in part, cannibalize MCI's retail revenues. This cannibalization could reduce the combined company's total profits if (1) MCI's retail market share is relatively high, and (2) if MCI's retail margin is large compared to WorldCom's wholesale margin.

97. In order to analyze MCI-WorldCom's post-merger incentives in wholesale markets, I have performed a simple diversion analysis. This analysis is not intended to provide a precise quantification of MCI-WorldCom's post-merger price-cost margins but instead to illustrate that under a range of reasonable costs and revenue assumptions, the combined company has an incentive to restrict wholesale sales at the margin. In Exhibit 5, I estimate WorldCom's wholesale margin per minute of use (MOU) sold to be 0.2¢, while the Big Three's retail margin per MOU averages about 2.1¢ across residential and business customers. I have based these estimates on data presented by MCI-WorldCom expert Professor Robert Hall, even though he uses proprietary data which has not been independently verified, and his use of average revenues per minute across a broad mix of segments (instead of actual prices) is methodologically suspect.[60] These are conservative estimates because I have assumed that all selling, general and administrative (SG&A) costs vary in proportion with output. Clearly, some large proportion of SG&A costs are fixed (*e.g.* branding expenditures), and therefore actual retail margins are understated. I believe that this calculus would be even more compelling if MCI and WorldCom were to provide substantive data on their actual margins and incremental costs of service.

[60] See *Hall Declaration, op. cit.*, at p. 13, 18. The data reported by Professor Hall is in constant 1996 dollars.

98. As measured by Frost & Sullivan, WorldCom and MCI currently have 5.0% and 20.9% respectively of the retail long-distance market (by revenues, excluding sales by wholesalers to resellers, but including retail sales by resellers). As shown in Exhibit 6, if WorldCom sells an additional minute at wholesale to a reseller, it gains the wholesale margin (0.2¢), but loses some retail margin, as there is a probability that the reseller will take away existing WorldCom retail customers. Assuming that each company loses traffic to resellers proportionally to their current retail shares, for every minute sold to resellers, WorldCom is likely to lose 0.1¢ of retail margin (=5.0% x 2.1¢). Therefore, WorldCom gains 0.1¢ for each additional wholesale minute provided (=0.2 - 0.1). On the other hand, the incentive for a combined MCI-WorldCom is exactly the opposite. Because of its higher retail share, its opportunity cost is 0.6¢ (=25.9% x 2.1¢). The net loss from an additional wholesale minute sold is 0.3¢. The combined companies now have incentive to divert wholesale sales in order to increase retail sales, an incentive not present when WorldCom was independent.

99. Drs. Carlton and Sider claim that resellers are more likely to take market share from AT&T than they are from other carriers (such as MCI or WorldCom), because AT&T has the highest share of presubscribed access lines, and that this share will not change after the merger. According to this argument, the combined company will still have a strong incentive to actively pursue wholesale sales to resellers.[61] However, the diversion analysis provided above shows that even if MCI-WorldCom's post-merger wholesale sales take more customers away from AT&T than they do from MCI-WorldCom, as claimed by Carlton and Sider, wholesale sales would still reduce the combined companies' revenue by cannibalizing retail sales.[62]

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[61] *Second Declaration of Dennis W. Carlton and Hal S. Sider*, CC Docket No. 97-211, March 19, 1998, pp. 28-31.

[62] Post-merger, MCI WorldCom will take away nearly twice as many retail customers from AT&T as they do from themselves, given AT&T's retail market share of nearly 50%. Nevertheless, the retail margin is so high that the cannibalization is unprofitable.

100. Additionally, I point out that estimates of AT&T's market share in the low-volume residential market frequently overstate AT&T's actual competitive strength within the market. According to the *Wall Street Journal*, approximately one-third of U.S. households make less than $10 per month in long-distance calls. AT&T serves a disproportionately high share of this market sub-segment because it has retained a large number of unprofitable "legacy" customers remaining from divestiture who make a very low-volume of calls.[63] According to a recent Merrill Lynch report, AT&T serves approximately 80 million residential customers. Of this total, 15 million spend less than $3 per month, and 5 million spend between $3 and $7 per month.[64] AT&T claims to lose $500 million per year on these customers.[65] These low-volume customers have very little incentive to shop around and change carriers and thus should not be included in AT&T's market share for purposes of calculating the probability that a given customer who switches carriers will sign up with AT&T as opposed to other carriers. There is not enough available data to adjust MCI-WorldCom's market share upwards to account for this fact with any degree of precision, but I note that this is another reason why my diversion analysis was conservative.

101. If the Williams lawsuit against WorldCom is any indication of its post-merger approach towards handling wholesale customers which are also competitors, the large number of resellers which are dependent on WorldCom service may have an increasingly difficult time competing in the long-distance retail markets. In addition to the RBOCs, who have contracts with WorldCom, several other large resellers – including Southwestern Bell Mobile Systems, GTE, Excel, NTC, Unidial, and small facilities-based networks such as IXC – have signed long-term contracts with WorldCom and are counting on the company to provide reliable wholesale long-distance service.[66]

102. In conclusion, an independent WorldCom has an incentive to expand wholesale supply, while the combined MCI-WorldCom has a strong incentive to restrict wholesale supply. Independent stock analysts have confirmed that WorldCom's incentives will change:

> "'It's the first time he bought something bigger than him,' said Daniel P. Reingold, head telecommunications analyst at Merrill Lynch & Company. 'WorldCom in the past was a renegade. It catapults WorldCom into a player with a greater vested interest in industry stability.'"[67]

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[63] "AT&T Cuts Discounts for Some Customers, Introduces New Ones," *Wall Street Journal*, August 22, 1995.

[64] Merrill Lynch Analyst Report, AT&T Corp., January 29, 1998, p. 3.

[65] *Id.*

[66] *WorldCom Press Releases*: "GTE and LDDS WorldCom Sign Long-Term Agreement," February 8, 1996 (http://www.wcom.com/press96/020896.html); "WorldCom, Inc. Announces Agreement With Excel Calling For $900 Million, Four-Year Commitment," June 4, 1996 (http://www.wcom.com/ press96/060496.html). See also *Wholesale Long-distance: Carrier Report Card*, Atlantic-ACM, p. 13. IXC's contract with WorldCom is a capacity swap agreement. See *IXC 10-K for the fiscal year ended December 31, 1996.*

[67] Seth Schiesel, "The Re-engineering of Bernie Ebbers," *The New York Times*, April 27, 1998.

C. Other examples of vertical integration between wholesalers and retailers cited by MCI-WorldCom are not relevant to the current analysis

103. MCI and WorldCom claim that the experiences of WilTel/LDDS and Qwest/LCI prove that retail and wholesale operations can co-exist without incentives for diversion.[68] There are a number of flaws in this argument. First, both LDDS and LCI have had tiny retail bases compared to MCI at the time their respective mergers or acquisitions were announced. As shown in Exhibit 8, Frost & Sullivan shows that LCI currently only has a 1.7% share of the overall retail long-distance market. Adjusting the diversion analysis performed above to account for the fact that a combined Qwest-LCI company would only have a 1.8% market share, it becomes evident that the combined company would not have an incentive to attempt to restrict wholesale supply. This is shown in Exhibit 8.

104. Similar reasoning applies to the WilTel/LDDS merger. At the time of the merger (1995), WilTel had no retail market presence to speak of, and LDDS had a much smaller share of the retail market than WorldCom has now. Therefore, the combined company did not have a significant retail market share, and consequently, the combined company would not have an incentive to restrict wholesale supply. However, as mentioned below, it is interesting to note that after the merger, there were reports that WilTel's wholesale reliability decreased.

[68] *Second Joint Reply of WorldCom, Inc. and MCI Communications Corporation*, CC Docket No. 97-211, March 20, 1998, pp. 42-43.

105. The incentive for entrants to restrain price competition after merging with a large retail firm is clearly visible in the case of MCI and Telecom*USA, which merged in 1990. Before its acquisition, Telecom*USA was a reseller, offering consumers using its dial-around service lower prices than the Big Three. In 1989, Telecom*USA realized national average revenues per minute just under 26¢, very close to the figure for the Big Three (inclusive of MCI), which realized national average revenue per minute of over 27¢.[69] Given market conditions in 1989, the comparison between average revenues per minute across all customers understates the degree to which Telecom*USA undercut the Big Three, as Telecom*USA's customer base was mainly residential, while a large proportion of the Big Three's traffic originated from large business users who can negotiate much lower prices. Therefore, it is highly likely that in 1989 the Big Three charged residential consumers rates substantially higher than those of Telecom*USA. This initial price competition between Telecom*USA and MCI has given way since the merger to prices in line with the standard, undiscounted rates of the Big Three. (MCI no longer publicly reports Telecom*USA's average revenue per minute, precluding any further, comparably specific analysis.) Now following the lead of its Big Three parent, Telecom*USA uses confusing pricing structures and advertising to give the impression of true price competition where none exists. It promises consumers savings of 50%, but these savings are compared with the standard rate plans of the Big Three, and apply only to calls of more than 20 minutes. In reality, prices for most calls with Telecom*USA are comparable to, or higher than, prices of the discount calling plans available from the Big Three. Exhibit 9 illustrates currently-available rates from Telecom*USA for a representative long-distance call. With one exception – calls over 20 minutes on weekday off-peak periods, a relatively infrequent scenario – using Telecom*USA is more expensive than using a standard discount plan provided by AT&T or MCI. Instead of undercutting the Big Three's effective prices as it had in the past, Telecom*USA's rates now appear in line with the Big Three's. MCI's own merger record thus illustrates that effective price competition is unlikely to continue when a company with large retail margins merges with a smaller, scrappy competitor.

[69] Telecom*USA 1989 national billable minutes from Telecom*USA Proxy, Securities and Exchange Commission, June 18, 1990, p. 33. 1989 Net Communications Services Revenues from Telecom*USA, Form 10-K: Auditor's Report, December 31, 1989, p. 18. Big Three 1989 revenue per minute are as estimated in Professor Hall's Declaration, *op. cit.*, CC Docket No. 97-211, at ¶42, p. 13. All data expressed in constant 1996 dollars.

## VI. Anticompetitive Effects of the Merger

### A. Transport as an input market: higher prices and less choice

106. There are numerous geographic areas and routes, typically in less dense population centers, where the supply of wholesale circuits would be controlled by the post-merger Big Three carriers. For example, entrants are not over-building existing long-distance facilities in substantial portions of Arkansas, Kentucky, Pennsylvania, South Carolina, Virginia, West Virginia, and most Western states. Table 9 below lists selected LATAs where the number of providers with an on-net presence will be reduced from four to three following the merger of MCI-WorldCom.[70]

**Table 9: Selected LATAs Most Affected by Merger**
(LATAs with only three post-merger competitors by year-end 1999)

| | |
|---|---|
| 120 Maine | 474 Knoxville, TN |
| 232 Northeast PA | 528 Little Rock, AR |
| 240 Hagerstown, MD | 624 Duluth, MN |
| 244 Roanoke, VA | 636 Fargo, ND |
| 250 Lynchburg, VA | 648 Great Falls, MT |
| 254 Charleston, WV | 654 Wyoming |
| 436 Charleston, SC | 676 Spokane, WA |
| 466 Winchester, KY | 939 Fort Myers, FL |
| 468 Memphis, TN | 949 Fayetteville, NC |

Source: Author's calculations based on publicly available information.

107. Note that this list is based on the most recently available forward-looking data on new network construction. (It therefore does not include LATAs which will be reduced to three facilities-based competitors post-merger, but where entry might occur before year end 1999.) Some of these routes may eventually be built out by the new networks, but this will likely take many years to achieve. Overall, 82 LATAs will be most affected, with expected competition reduced from four to three providers. Table 10 below summarizes the merger's estimated impact on competition among facilities-based networks.

[70] I assume that, absent the merger, WorldCom would have fully built out its network by 1999.

**Table 10: Summary of Areas Most Affected by Merger**

| Expected Number of Competitors (End 1999) | | Number of LATAs | Proportion of US Population |
|---|---|---|---|
| Pre-Merger | Post-Merger | | |
| 4 | 3 | 82 | 17% |
| 5 | 4 | 22 | 6% |
| 6 | 5 | 30 | 11% |

Source: Author's calculations based on publicly available information. Competitors include AT&T, MCI, Sprint, and WorldCom, as well as the larger facilities-based networks (Frontier, Qwest, IXC, LCI and Cable & Wireless).

108. On these routes and in regions where facilities-based competition will be reduced, the Big Three carriers are likely to raise prices. These routes are key wholesale inputs to resellers who want to provide a national long-distance service and are important to end-use customers located along them. While new entrants are constructing these facilities, the Big Three will be free to charge oligopolistically high prices for private line facilities.

109. Increases in private line rates push up switched rates by increasing the input prices to resellers who provide much of the retail price competition. IXC Communications Executive Vice President John Fleming concurs with this assessment, stating that "[o]nce private-line rates go up, it's going to start driving switched rates up also."[71] Thus, consumers will ultimately pay higher prices for retail services.

### B. Resellers Are Not Protected by Current Contracts

110. MCI and WorldCom claim that GTE and other resellers are protected by their existing contracts with WorldCom, which they claim will be honored. Yet MCI and WorldCom ignore the fact that WorldCom has continued to deliver substantial price reductions in the *Transcend* tariff as its volume increases and its competitive position vis-à-vis the incumbents improves, and as technology drives costs lower. Price reductions came in the form of reductions in tier-specific rates, or reclassification of high-priced tiers into cheaper tiers. Once combined with MCI, WorldCom no longer has an incentive to make these unilateral modifications. As shown by the table below, these reductions are substantial, over 25% between 1996 and 1997 alone. It is expected that an independent WorldCom will continue to pass through these cost reductions to its reseller base, and that therefore this transaction will cause WorldCom's prices to GTE and other resellers to be substantially higher than they would otherwise have been.

[71] David Rhode, "The Great T-3 Shortage," *Network World*, March 31, 1997.

**Table 11: Reduction in WorldCom *Transcend* Tariff**
(Grouped by Tier of LATAs)

| Tier | Proportion of US Population 1996 | 1997 | Price Reduction 1996-97 |
|---|---|---|---|
| A | 62% | 70% | 25% |
| B | 23% | 17% | 24% |
| C | 15% | 13% | 29% |
| | Weighted Average | | 25% |

Source: Analysis of WorldCom contracts. Reduction expressed as changes between tiers' per-minute charges net of access charges and processing fees, and includes reduction from tier reclassification.

C. Long-distance network services wholesale product market: less choice and higher prices on low density routes

111. Additionally, wholesale price reductions have been concentrated in areas where there is competition. As Exhibit 10 shows, the areas that have enjoyed the greatest reduction in WorldCom's *Transcend* tariff (through reclassification from Tier B or C to Tier A) are mostly urbanized areas (*e.g.* Memphis, Sacramento, Cincinnati). The more rural areas in Tiers B and C have remained classified as such. This demonstrates that wholesale price reductions have been concentrated in areas with wholesale competition, bypassing rural areas with little competition.

D. Movement in equities markets reflects anticompetitive nature of the proposed transaction

112. As I concluded in my original long-distance affidavit, equities markets have recognized the decreased competition that will likely characterize the post-merger interexchange industry. According to the *New York Times*, "[s]ince WorldCom announced its bid for MCI last October, the value of WorldCom's shares has increased by more than 30 percent, closing on Friday at $43.8125 in NASDAQ trading. Over the same period, the Standard & Poor's 500-stock index has increased by about 17 percent."[72] In other words, the markets have already assimilated WorldCom's future improved margins and greater corporate profits that should come from the higher prices and restricted supply that the merger will likely deliver.

[72] Seth Schiesel, "The Re-engineering of Bernie Ebbers," *The New York Times*, April 27, 1998.

113. Drs. Carlton and Sider are wrong in their criticism of the stock price analysis in my original long-distance affidavit. Contrary to their claim, it is not "standard practice in the finance literature [to look] at much shorter time horizons (at most a few days) to isolate the effect of an event such as a merger."[73] The time horizon suggested by Carlton and Sider is too short as they, incorrectly assume that the market received full information regarding the transaction at the time of the initial announcement. Instead, MCI and WorldCom's synergy estimates were revised substantially after the initial announcement, and the full details of the synergies and independent advisors' valuations were first made public in the Joint Proxy Statement after a full three months had passed from the initial announcement.[74] The single event of a merger announcement is not sufficient to allow the market to forecast the information derived from subsequent, related events, such as the release of potential synergy savings, major strategy shifts, and decisions to spin off unneeded assets, months later. For example, a well known survey article by Jensen and Ruback on the market for corporate control points out that:

> "for many events there is literally no single 'event' day, only a series of occurrences that increase or decrease the probability of an outcome such as a takeover"[75]

The evaluation of stock prices over a longer time horizon allows the market to fully integrate these and other pieces of relevant information as they arise. Contrary to Carlton and Sider's claims, much academic literature suggests that longer-term time windows are useful for studying events such as mergers, initial public offerings or even earnings releases. The literature suggests that analysis based on time windows of 30 or 60 days – or longer – is common, and in many cases preferable.[76] Indeed, of the 18 separate academic studies on stock-price effects of takeovers reviewed by Jensen and Ruback, 14 use time horizons of twenty days or more, while none of the studies reviewed used a time horizon of less than two days.[77] Jensen and Ruback also note that the magnitude of the takeover-related effect on the stock price measured over one month is about twice that of the effect measured over two days.[78] Therefore, the methodology advocated by Carlton and Sider would definitely not be "standard," as well as being biased downwards (with a built-in tendency to show small stock-price returns because the analysis period is too short), and being inadequate when analyzing the effects of a transaction as large and as complicated as the MCI-WorldCom merger.

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[73] *Second Declaration of Dennis W. Carlton and Hal S. Sider*, CC Docket No. 97-211, March 19, 1998, p. 36.

[74] See *WorldCom Form S-4/A*, January 22, 1998. The merger was initially announced on October 1, 1997.

[75] See Michael C. Jensen and Richard S. Ruback, "The Market for Corporate Control: The Scientific Evidence," *Journal of Financial Economics*, Vol. 11 (1983), pp. 5-50, at p. 14, note 6.

[76] See, *e.g.*, B. Espen Eckbo, "Horizontal Mergers, Collusion, and Stockholder Wealth," *Journal of Financial Economics*, Vol. 11 (1983), pp. 241-273; Gregg A. Jarrell, James A. Brickley and Jeffrey M. Netter, "The Market for Corporate Control: The Empirical Evidence Since 1980," *Journal of Economic Perspectives*, Vol. 2, No. 1 (Winter 1988), pp. 49-68.

[77] Jensen and Ruback, *op. cit.* at Table 3.

[78] Jensen and Ruback, *op. cit.* at p. 14.

## VII. MCI-WorldCom Claims of Merger Synergies are Unrealistic and Inconsistent with Claims that there are no Barriers to Entry

### A. MCI-WorldCom exaggerate cost savings associated with merger

114. MCI-WorldCom claim that their merger will lead to substantial cost savings and synergies. WorldCom estimates that annual cash operating cost synergies of $2.5 billion are achievable in 1999, increasing to $5.6 billion by 2002.[79] There are a number of factors which indicate that MCI-WorldCom are overstating the synergies they will be able to achieve due to the merger. In his affidavit, MCI Treasurer Sunit Patel discusses from where these savings will come.[80] By only analyzing cost-reductions experienced by the merging parties, Mr. Patel's affidavit does not account for the opportunity cost of lost revenue from consolidating the two carriers' networks. For example, Mr. Patel mentions that WorldCom currently leases a private line from MCI to carry long-distance traffic between Dallas and El Paso, Texas – one which is recorded on WorldCom's books as an "off-net cost."[81] After the merger, WorldCom implies that its costs will be reduced because it will not need to pay for using the MCI network. However, there will also be a corresponding reduction in MCI's private line revenues which it no longer receives from WorldCom. If MCI did not carry WorldCom's traffic, it could have sold the same private line to a third party customer.[82] In effect, the merger simply replaces an inter-firm hard payment for an intra-firm transfer price; MCI-WorldCom claims the hard cost reduction is a synergy without considering the effects of the hard revenue reduction. In the example cited above, the only economically relevant effect of the merger on the combined companies' profitability is the potential reduction in transaction costs associated from procuring the Dallas to El Paso link from MCI the affiliate as opposed to MCI the third party and from any expansion in WorldCom's consumption of MCI circuits in response to price reductions by MCI.[83] This amount is much smaller than the total cost reduction mentioned by Mr. Patel.

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[79] *WorldCom Form S-4/A*, January 22, 1998, p.42.

[80] *Affidavit of Sunit Patel*, In the Matter of Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc., CC Docket No. 97-211, Before the Federal Communications Commission, March 20, 1998, p.3-12.

[81] *Id.*, p.3.

[82] This assumes that the pre-merger MCI was charging WorldCom for that line.

[83] If pre-merger, MCI was charging WorldCom a price higher than marginal cost for the circuit, WorldCom might expand consumption of MCI circuits once prices are reduced following the merger.

115. As I pointed out in my first long-distance affidavit before the FCC, MCI and WorldCom make a similar mistake with estimating access charge reductions. They claim that switched access services provided to MCI by WorldCom's local exchange companies will reduce MCI's costs. However, as with the use of MCI private lines by WorldCom, WorldCom will forgo revenue it would have earned if it had sold access services to an independent MCI. I also explained in my earlier affidavit that MCI-WorldCom's claims about the ability to use more efficient direct end-office trunking access arrangements appear to be exaggerated. MCI-WorldCom and their economic experts have not responded to my criticisms of these synergy claims.

116. Also, I note that the costs associated with integrating separate long-distance and Internet networks with different hardware and software systems should not be ignored or underestimated. According to one newspaper account, this will be a difficult process:

> "Industry analysts believe bringing the two firms together will not be easy because WorldCom is still struggling to combine four other major acquisitions: MFS Communications; Brooks Fiber; UUNet and America Online."[84]

117. The applicants have not explained how they plan to optimize their networks and the costs of doing so. For example, the firms have separate billing systems, whose consolidation will "take years" to complete, according to Paul Wickre, President of the consulting firm Frame Relay Systems and Technology, Inc.[85] In addition, MCI and WorldCom use different routing equipment for frame relay service: MCI uses equipment from Bay Networks, while WorldCom uses Cisco StrataCom equipment. Eliminating these dual systems without disruption in service levels will pose serious difficulties.[86]

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[84] Steven Rosenbush, "MCI WorldCom: Piecing Together an Empire," *USA Today*, April 16, 1998.

[85] "Now Comes the Hard Part," Stephania H. Davis, *Internet Telephony*, November 17, 1997. (http://www.internettelephony.com/telephonyarchives/11.17.97/notw.html)

[86] *Id.*

118. Some long-distance market analysts point out that earlier long-distance mergers have also led to expensive network integration problems and service quality difficulties. An analysis of the LDDS/WilTel merger by *Network World* describes the "stresses placed on a business, its people, and underlying information and billing systems as a result of a large-scale merger or acquisition."[87] In fact, many merging companies are never able to obtain the cost savings for which they had hoped from consolidating their operations because merging back office, customer support and billing functions turns out to be much more time-consuming and costly than originally anticipated. *Atlantic-ACM* reports that some respondents to its survey of wholesale long-distance customers "claimed that WilTel's disaster recovery has suffered since its purchase by LDDS."[88]

119. Furthermore, it is difficult to operationally consolidate separate Internet backbone networks. These issues are demonstrated by WorldCom's recent purchase of ANS Communications, CompuServe Network Services (CNS) and GridNet International. WorldCom Internet subsidiary UUNet has redundant facilities with the recently acquired backbones but is currently running all four networks separately. WorldCom plans to reorganize its Internet business units to rationalize its service offerings. Even after this reorganization, "WorldCom may have three of four different versions of certain offerings under the plan, but the company has no immediate plans to eliminate redundant services."[89] According to *Network World,* WorldCom will not even begin the process of physically integrating its different Internet subsidiaries' networks until the end of 1998.

> "The other big network integration challenge involves melding a hodgepodge of different network equipment. ANS Communications, CompuServe, and GridNet are all running 45M bit/sec backbone networks, but each net is based on equipment from a different vendor - Bay Networks, Inc., Cisco and Cascade Communications Corp., respectively. UUNet, on the other hand, is operating a much faster 622Mbit/sec network based on Cascade and Cisco gear. This network will most likely form the core of WorldCom's Internet backbone."[90]

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[87] Christine Heckart, "LDDS/WilTel Deal Alters Telecom Landscape," *Network World*, August 29, 1994.

[88] Atlantic-ACM, *Wholesale Long-Distance: Carrier Report Card*, p. 50.

[89] Denise Pappalardo, "WorldCom Sorts Out Its Internet Assets," *Network World*, March 6, 1998. (http://www.nwfusion.com/news/0306compu.html)

[90] *Id.*

120. According to a *Network World* interview with WorldCom COO and UUNet CEO John Sidgmore, after the merger between MCI and WorldCom, the two companies' Internet backbones will not be able to achieve cost savings by reducing their combined number of POPs. The two networks will be "more robustly interconnect[ed]" but "we will probably not take out any hubs or [points of presence]."[91] Recently, investment analysts have also questioned the combined company's synergy estimates.

> "'MCI has become a very large organization with lots of layers and lots of processes and lots of systems,' said Stephanie G. Comfort, the chief telecommunications analyst for Morgan Stanley Dean Witter. 'Whereas WorldCom appears to me to be a real flat organization with lean ranks in terms of senior management. The risk is that the MCI culture prevails.' To Ms. Comfort, that risk is genuine. She forecasts that the combined company will be able to reduce operating costs by only $3 billion to $3.5 billion by 2002, or by only up to about 63 percent of what WorldCom has predicted."[92]

121. In short, given the difficulties of integrating the companies, any claims of cost savings or synergies should be scrutinized carefully. Operational problems stemming from failed integration of operations can quickly wipe out a transaction's potential cost savings. This Commission should take cautionary note from the experience in the Union Pacific - Southern Pacific (UP/SP) rail merger. UP just announced that the quarterly after tax cost of congestion caused by the merger was $260 million, and that consolidated quarterly cash flow had decreased $368 million, primarily due to "continuing congestion as well as merger consolidation spending."[93] This Commission therefore ought to substantially discount the claimed yet unproved efficiencies in its public interest evaluation of this transaction.

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[91] "WorldCom's Sidgmore sizes up the deal," *Network World*, November 17, 1997. (http://www.nwfusion.com/news/1117sidgmore.html)

[92] Seth Schiesel, "The Re-engineering of Bernie Ebbers," *The New York Times*, April 27, 1998.

[93] See *Union Pacific Corp. Quarterly Report*, SEC Form 10-Q, filed May 13, 1998.

B. MCI-WorldCom's synergies claims are inconsistent with assertions that there are no barriers to entry in long-distance markets

122. Despite the fact that the efficiencies claimed by MCI-WorldCom appear to be exaggerated and outweighed by the anticompetitive harms resulting from the transaction, there are substantial economies of scale, scope and density associated with the provision of long-distance services. The fact that companies as large as MCI and WorldCom believe that they have not reached minimum efficient scale (*i.e.* that they are still on the downward sloping portion of the average cost curve) provides compelling evidence that the massive capital costs and sunk investments required to compete in the long-distance market are a substantial barrier to entry. Any introductory microeconomics text book explains that large economies of scale can serve as a barrier to entry. As Walter Nicholson's *Microeconomic Theory: Basic Principles and Extensions* explains,

> "A primary technical barrier [to entry] is that the production of a good in question may exhibit decreasing marginal (and average) costs over a wide range of output levels. The technology is such that relatively large-scale firms are low-cost producers."[94]

123. In the long-distance industry, the economies of scale, scope and route density are a barrier to entry. I explained in my first long-distance affidavit that new entrants in the long-distance market typically first lease wholesale minutes of use from incumbent providers. When they have signed up a large enough customer base, they start leasing private line circuits such as DS-1s on high traffic routes. As their customers and traffic continue to increase, they begin to lease private lines on additional routes and upgrade the capacity on existing leased lines. Ultimately, carriers may sign long-term leases with quasi-ownership rights known as indefeasible rights of use (IRUs) which grant the lessee the right to use specified strands of fiber for the entire lifetime of the network. When a carrier has achieved enough traffic, it may build out its own network. On each step along the continuum from purchasing bulk MOUs to constructing a free standing fully-owned network, there are substantial decreases in the average transmission costs for long-distance traffic. Exhibit 11 provides an illustrative example of this phenomenon. As volume on a 1,000 mile private line route increases, it becomes efficient to employ bigger capacity circuits to obtain a reduced average cost per minute of transport. These results are consistent with a declining long run average cost curve.

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[94] Walter Nicholson, *Microeconomic Theory: Basic Principles and Extensions*, The Dryden Press: 1992, p. 560.

124. Exhibit 11 shows the average cost per minute of 1,000 mile leased circuits with varying capacity when they are 33% loaded (that is, traffic on the line averages only 33% of its maximum capacity – a typical scenario). As can be seen from Exhibit 12, the average transport cost per minute that an entrant could obtain by leasing a DS-3 would be around 0.7¢ per minute, as compared to 1.8¢ per minute using DS-1 circuits.[95] Therefore, if a carrier could generate sufficient traffic to upgrade from a DS-1 to a DS-3, the average cost per minute of the connection could be reduced by more than half. The transport cost of using a leased DS-3 would be much lower than the typical price available on a wholesale per-minute basis. In addition, there are substantial discounts to be had on DS-3 pricing for *wholesale* volume and term commitments. At even higher traffic volumes, the carrier can further reduce its average cost per minute by first moving to higher increments of leased capacity (such as OC-3, equivalent to 3 DS-3s), and then switching to owned fiber. Exhibit 12 examines the average cost per minute when carrying very high traffic volumes on either leased or owned facilities.[96] As can be seen, carriers which achieve sufficiently high traffic volumes to justify fiber investment can enjoy a substantial cost advantage over carriers relying on leased facilities.

125. Lewis O. Wilks, Qwest's President for Business Markets, has recently summarized very succinctly the existence of substantial technical, operational and marketing barriers to entry:

> "There's more to establishing a service than putting technology on a fiber-optic link"[97]

Qwest's assessment is consistent with this Commission's decision in the Bell Atlantic Nynex case that the types of barriers to entry which I identified in my first affidavit are indeed appropriate when applying the public interest standard to mergers of common carriers:

> "Entrants must [amass] the technical, operational, financial and marketing skills necessary to operate as a telecommunications provider. For mass market services, entrants will have to invest in establishing brand name recognition and, even more important, a mass market reputation for providing high quality telecommunications services. These consumer "goodwill" assets take significant amounts of time and resources to acquire."[98]

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[95] Obtained by dividing the monthly cost of the DS-3 line by its minute-of-use capacity and the loading factor: $63,000 ÷ 672 channels ÷ 30 days ÷ 24 hours ÷ 60 minutes ÷ 33% load = 0.7¢ per minute of use.

[96] The average cost calculation assumes a capital cost of $200,000 per mile of lit fiber, with only one system (two strands active plus two reserve) operating at OC-192, with a weighted average economic life of 13 years, and O&M costs of 1.5% of the capital cost per year.

[97] See Roger Crocket, *"Only Sprint has it all - or does it ?"*, Business Week, June 15, 1998, p.51 (pub. June 5).

[98] *Bell Atlantic NYNEX*, MO&O, *op. cit.*, at ¶6.

## VIII. Conclusion

126. The proposed merger will have profound adverse effects on several facets of the telecommunications industry. Specifically, the merger will effectively eliminate a primary competitor in interexchange markets – one which, through its aggressive service in wholesale segments, delivers indirect yet quantifiable competition to the retail long-distance market. As a result, consumers will be faced with fewer choices and higher prices when selecting a long-distance carrier.

127. There are several key points which support my conclusion that this merger will be anticompetitive. First, any analysis of the long-distance industry must be premised on the fact that within interexchange markets, there are clear and separate product markets for both inputs such as transport, wholesale network services, and retail service. Similarly, the relevant geographic market for wholesale network services is nationwide while the market for transport is route-specific.

128. Recent "entry" into interexchange markets cannot be considered adequate, both in terms of the service offered to consumers and the competition offered to the market. The entry that is occurring is driven by the excess profits of the incumbent carriers; however, it has not had the effect of bringing prices closer to cost and, in turn, of reducing actual prices to the end-user. The newer entrants are not building networks that can match the quality and ubiquity of those of the Big Three carriers or WorldCom, and even today's most ambitious entrants are several years away from completing their networks. If these new entrants were truly relevant market substitutes, then we should expect to see lower prices, with consumers switching to new carriers in search of those lower prices. That simply is not happening.

129. The proposed merger threatens to disrupt the resale/wholesale segment, one of the industry's few sources of current competition. By assimilating WorldCom into the Big Three, the transaction will eliminate the industry's current "maverick" provider. As kin of MCI, WorldCom's incentive to continue serving the resale market will likely disappear. As a result, wholesale prices to resellers will rise, wholesale quality will erode, and end-use consumers will feel the ultimate adverse effects. So while GTE and other resellers are not entirely dependent on WorldCom, they certainly are dependent on the competition that WorldCom brings to the wholesale market.

130. MCI-WorldCom and their economic experts have seriously understated the harm that this merger will have on interexchange markets. By both mischaracterizing the current state of competition in the industry and exaggerating its future competitive landscape, MCI-WorldCom does not sufficiently prove that this merger will be in the public interest. Through on-going analysis presented both here and in prior affidavits, I conclude that this merger, if approved, will instead be anticompetitive, to the detriment of the telecommunications industry and consumers alike.

**LONG-DISTANCE REPLY AFFIDAVIT OF ROBERT G. HARRIS**

I hereby swear, under penalty of perjury, that the foregoing is true and correct, to the best of my knowledge and belief.

Robert G. Harris

State of California )

County of Alameda )

Subscribed and sworn to before me this 8th day of June 1998.

Notary Public

My Commission Expires

Dec. 6, 2000

JACQUELINE O'NEILL
Commission # 1119125
Notary Public — California
Alameda County
My Comm. Expires Dec 6, 2000

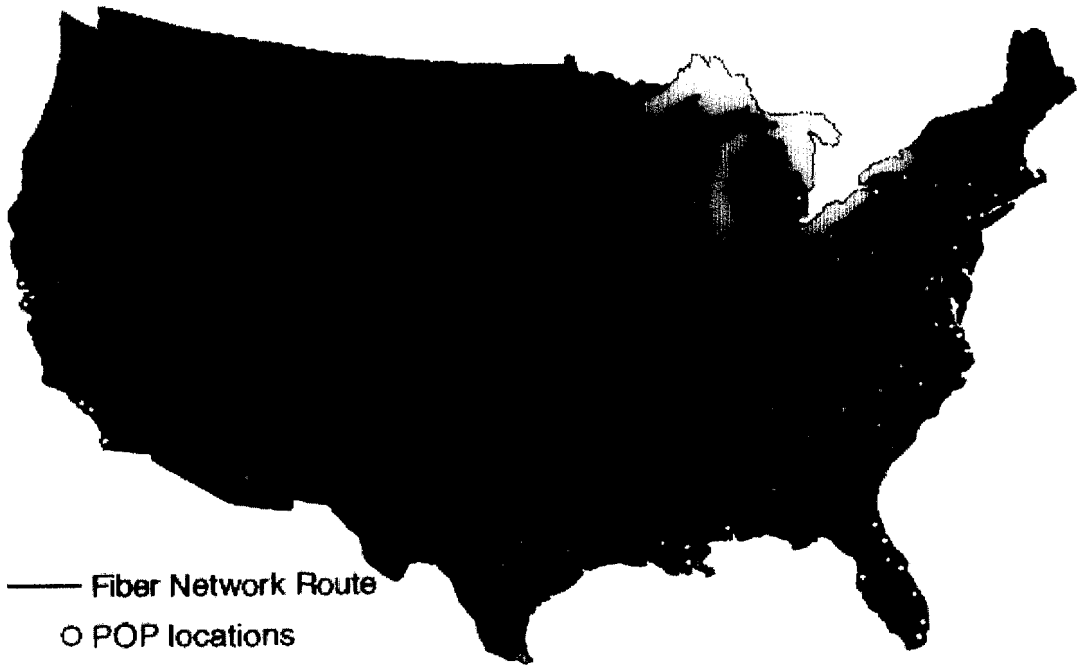
# Harris
# FCC Reply Affidavit
# Exhibit Index

| Exhibit # | Content | Detail |
|---|---|---|
| 1 | Route maps of Wilcom and Vyvx networks | Two maps: (1) entire Williams network and (2) overlaid maps of separate Wilcom and Vyvx networks |
| 2 | Relative size of long-distance companies -- capital expenditures, telecom assets, market value, revenues | Current snapshot of benchmarks for several carriers |
| 3 | Wholesale long-distance contracts to ILECs/BOCs | List of long-distance resale contracts/agreements between IXCs and LECs |
| 4 | Big Three/WorldCom revenue by market segment | 4 pie charts. Breakout of revenues by market segment: residential, business, wholesale, international, etc. |
| 5 | Inputs for incentives to supply wholesale service | Margin per MOU for combined MCI-WorldCom |
| 6 | Diversion Analysis I: Merger would eliminate WorldCom's incentive to supply wholesale service | Incremental gain/loss on selling additional MOU for both residential/small business and large business |
| 7 | Retail long-distance market shares | Market shares for residential and small business segments for IXCs -- including combined MCI-WorldCom |
| 8 | Diversion Analysis II: Merger would not affect Qwest/LCI's incentive to supply wholesale service | Incremental gain/loss on selling additional MOU for both residential/small business and large business |
| 9 | Telecom*USA rates | Rates for 10min. and 25 min. call, NYC-SFO |
| 10 | LATAs reclassified under WorldCom Tariff | List of tiered LATAs which WorldCom moved vs. sample of tiered LATAs which were unchanged |
| 11 | Economies of Route Density for DS-0, DS-1, DS-3, OC-192 | Four-line chart with volume-sensitive pricing for DS-0, DS-1, DS-3, and OC-192 conduits. Includes derived Least Cost Transport line |
| 12 | Economies of Route Density for DS-0, DS-1, DS-3, OC-192 | 4-bar chart with average transport costs of DS-0, DS-1, DS-3, and OC-192 conduits |

**Harris Reply Exhibit 1**

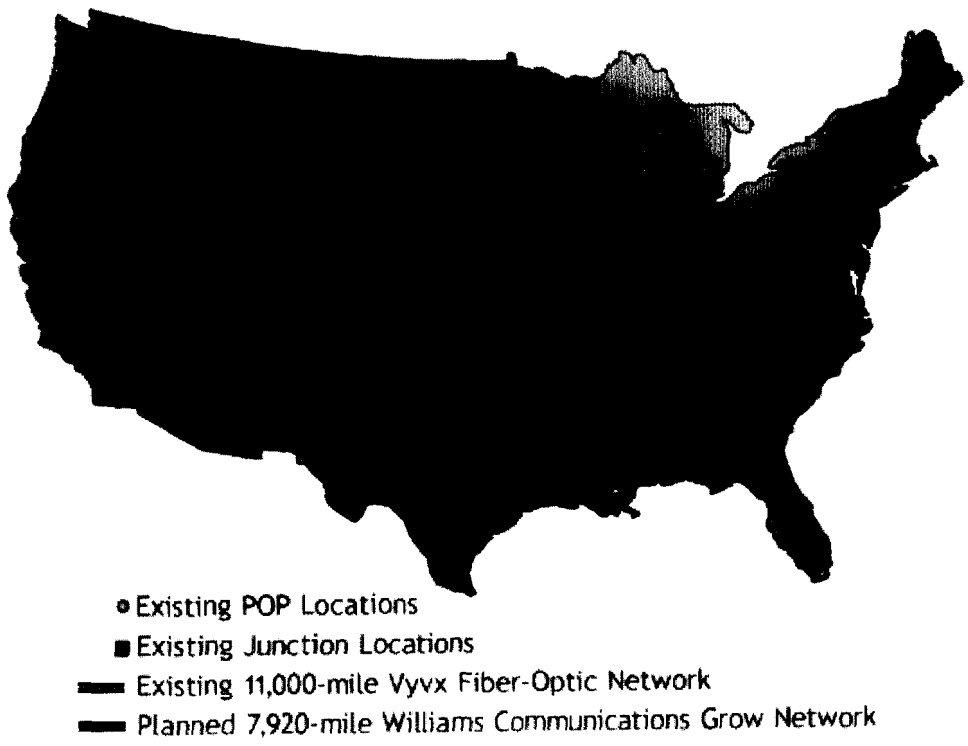
# Entire Williams Fiber Network Including Off-Net POPs

(http://www.willtales.com/network/map.html)




# Vvyx and WilCom Networks

(http://www.wilcom.com/2map.shtml)

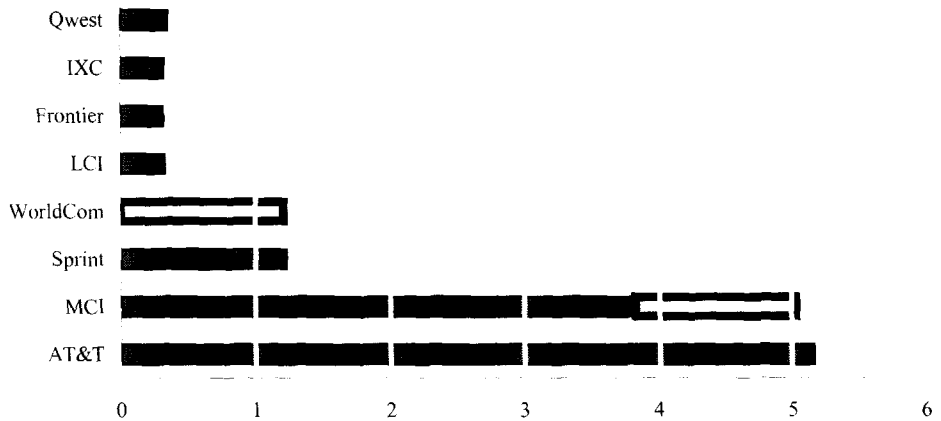


**Harris Reply Exhibit 2**

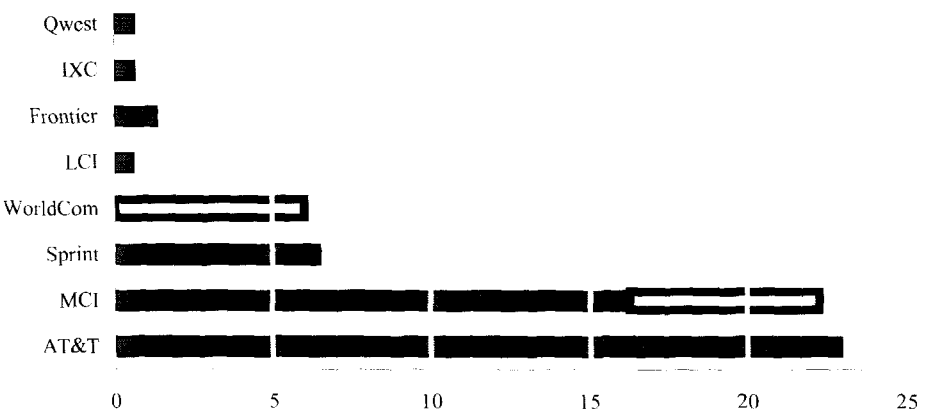
# Relative Sizes of Long-Distance Facilities Based Providers

## (1997 Dollars in Billions)

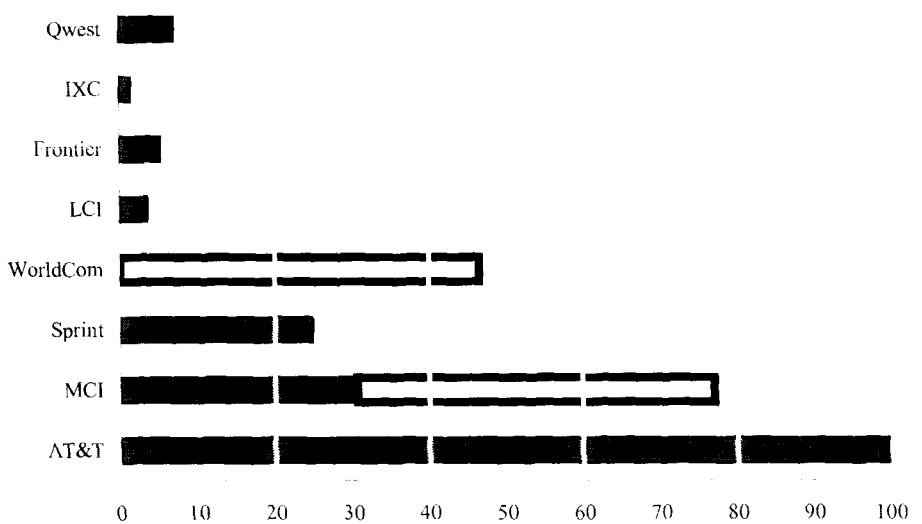
### Capital Expenditure



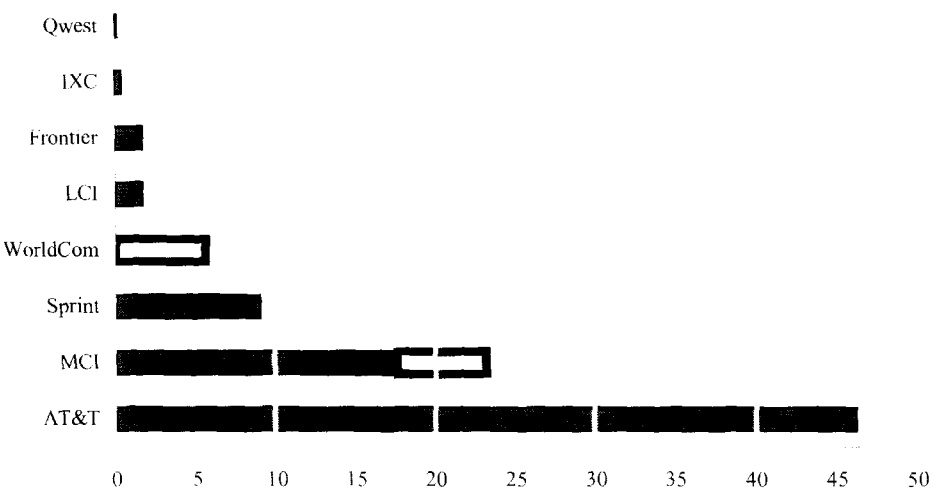

### Long-Distance Telecommunications Assets




### Market Value




### Revenue




*Sources: 1997 Company 10-Ks, 8-Ks and Annual Reports; company press releases; AT&T Long-Distance Telecom Assets from 10Q filed 5/15/98. Market values as of 6/9/98.*